15. DISPERSAL OF BAYAS WITH RECORDED DISTRESS CALLS

Introduction

The Indian Baya (*Ploceus philippinus*) is a common crop pest causing considerable damage to cereal crops. They commence visiting the fields in flocks from the time the crops are in milky stage of grain and continue to damage till the harvest of the crop (Hamid Ali *et al.* 1980). Though various control measures have been advocated none has given a satisfactory result. Some investigators (Frings and Jumber 1954, Frings and Frings 1963 and 1967, Pearson *et al.* 1967) used the distress calls to frighten away and disperse the birds from their roosts and bird pests from feeding areas. The present experiment was conducted to investigate whether recorded distress calls have any repellent effect in dispersing the bayas from crops.

Materials and Methods

The roosting site of bayas selected for the present study was situated in the midst of the Agricultural University experimental paddy fields approximately one kilometre from the Veterinary College, Rajendranagar, Hyderabad. About 350 bayas roosted in a bush. These bayas caused heavy damage to the surrounding experimentl fields. The acoustic equipment used for the experiment consisted of microphone, stereo tape recorder of high quality, 30 W amplifier, speakers and 12 V battery. The distress calls of bayas were recorded for a continuous period of three minutes in the laboratory. The recorded distress calls have high signal-to-noise ratio.

The experiment was conducted during March 1978. The amplifier feeding a speaker, and the tape recorder playing the recorded distress calls were operated at a distance of 200 metres from the roosting site. On March 1, 1978 at 5 p.m. about 350 bayas arrived in groups at their roosting place. Prior to the arrival of bayas the speaker was kept hidden on one side of the roosting bush. After 15 minutes of the arrival of bayas and as they began to settle down, the distress calls were played for 30 seconds. Immediately the birds responded to the distress calls and showed signs of restlessness and moved to the other side of the bush. After an interval of 5 minutes the distress calls were again played for 40 seconds. Groups of bayas came out of the bush and hovered around the speaker at a height of about 12 metres and flew off in a northern direction. The birds did not return to the site to roost on that night.

The same experiment was repeated at intervals of 2 to 7 days. The experimental data on the effect of distress calls on baya population are shown in the Table.

Table

Effect of distress calls on the population of bayas during the experimental period

Date	No. of bayas in the bush	Time of arrival of the bayas (in hours)
1-3-1978	350	17.00
3-3-1978	350	16.50
6-3-1978	200	17.40
8-3-1978	80	17.30
10-3-1978	49	18.00
13-3-1978	20	18.20
16-3-1978	—	—
23-3-1978	—	—
30-3-1978	—	—

In each trial the bayas came out of the bush in small groups, hovered around the speaker

without actually settling down and after 6 to 8 seconds activity at the roosting site, the bayas dispersed.

Discussion

Observations recorded in three trials after the last batch of bayas were dispersed show that the birds did not return to their night roosts till the end of the experimental period, i.e. till 30 March when the last observation was taken.

Pearson *et al.* (1967) observed that starlings were not habituated to distress calls contrary to the findings of Frings & Frings (1963). In the present studies the dispersal of bayas from their roosting site indicates that they are not habituated to the distress calls which is in confirmation with findings of Pearson *et al.* (1967). From the above observations it is inferred that the bioacoustic method is effective in moving bayas from their roosts. Further experiments with regard to the effective distance of audibility in cropped area, duration of the effect and the response of the bird pests toward the distress calls of other species are in progress.

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